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A C2 system for 'Winning hearts and minds': tools for Confrontation and Collaboration Analysis

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Abstract

Asymmetric campaigns since the end of the Cold War have tended to have a brief war-fighting phase followed by a "cultural" phase in which victory is achieved by winning the "hearts and minds" of diverse ethnic and national groups that may side with us or with extremists. Actual fighting is limited to the tactical level; its strategic significance, like that of other operations, is in the political-psychological domain rather than the physical. It lies in whether it sends the right message to the right people, and makes it credible to them. This paper outlines a command and control system for managing the messages sent by a force (in words or in deeds) with the objective of winning hearts and minds. The system is supported by a new commercial, off-the-shelf software package called *Confrontation Manager*.

"I tell my captains you have to understand the inner working of the communities in your area."

These words are strikingly different from those traditionally used to describe battles. They are those of a US battalion commander in Iraq, as reported in a *Wall Street Journal* article in September 2004 (Greg Jaffe, "On Ground in Iraq, Capt. Ayers writes his own playbook", *WSJ*, September 22 2004). To the average newspaper reader, ignorant of the nature of modern campaigns, they sound more like a social worker than a soldier. Yet they describe how the warrior's specialty—the use or threat of deadly force—is used in today's battlefields.

The battalion commander being interviewed was responsible for a 1,500 square-mile region in the Sunni triangle. Under him were four company commanders. The article describes how one company commander dealt with a problem of retrieving lost equipment.

This commander, a captain, was responsible for one-fourth of the area, ran raids and patrols, oversaw a 200-man Iraqi police force and distributed millions of dollars for reconstruction projects. He had become a figure of some local importance, and a target for guerillas. One day he arrives at a scene where two Humvees from his unit had been hit by roadside bombs. One of them has had to be abandoned for a while as soldiers took cover and radioed for help, and its machine-gun and high-tech gun sights have been looted.

The normal procedure, having lost equipment, would be to search the area immediately. Instead, the captain, aware of local sensitivities, talks to the village sheik. He asks him to find those responsible and get them to return the equipment. If it is not returned, he will tear the village apart.

He is doubtful that this will work—but within two days his equipment is returned.

The sequel, however, is bad. The sheik's son is later murdered by insurgents.

Need for a C2CC system

In this paper we will show how a C2CC system (system for Command and Control of Confrontation and Collaboration) can be set up to manage the kind of operations described in this *Wall Street Journal* article. A C2CC system is a system for coordinating, through all levels of command, the interactions needed to win the hearts and minds of ethnic and national groups that may side either with us or with those that seek to destroy security and stability.

Such a system is badly needed because winning the hearts and minds of those that can be won over is the essential "centre of gravity" that must be attacked to win a typical post-conflict campaign and to exit successfully from the theatre.

The point is this. War-fighting at tactical level, however intense and violent, and whether physically successful or not, is strategically successful only insofar as it contributes to this over-riding strategic aim: winning hearts and minds. War-fighting or the threat of war-fighting can, of course, contribute to this aim; a C2CC system should show exactly how. It can also work against it; a C2CC system must give warning when this is so.

In addition to war-fighting, many other actions of the military contribute to or work against the aim of winning the hearts and minds of strategically important waverers. We use the general term "message" for all such actions, whether kinetic or symbolic, to emphasize the need to evaluate the message that they send to the strategic target—the parties that must be won over for the campaign to succeed.

We will show how a recently released commercial, off-the-shelf software package called *Confrontation Manager*[1] can help commanders at every level to find and send the right messages to win a modern campaign. This software is actually targeted at managers in any kind of organization, civil or governmental, that need to conduct relationships with others in an effective manner. We will discuss its use in a chain of command running from the political level to the tactical level of a military operation. We will show how it can support a C2CC system that coordinates all the messages sent in a post-conflict, stabilization theater of operations—so that the messages sent by a company commander in Iraq support and are supported by those sent by his commanders all the way up the White House.

The concept of an interaction

At the heart of the system we propose is the concept of an "interaction."

A *Confrontation Manager* file contains what is called a "view"—meaning a view of a set of interactions. These interactions represent the view of its message-sending activities taken by a particular organizational unit—say, a command HQ at some particular level or, at the highest level, the political leadership of a country.

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What, then, is an interaction? It is an arena where messages are exchanged between different parties, each trying to influence the other.

At any point in an interaction, each party has a "position" it wants the others to accept. It also has a "stated intention" it says it will carry out if others don't accept its position or (in cases where its position has already been accepted) if it can trust others to implement its position. The interaction is a struggle by each party, first, to get others to accept its position. Following that, to make sure it can trust them to carry it out. It conducts this struggle by sending messages—meaning actions that are judged primarily for their effect in compelling or inducing others to agree with its position and intend to carry it out.

Thus, an interaction typically goes through two stages. It begins with a "confrontation", in which parties take conflicting positions. The aim of each party at this stage is normally to reach agreement on a position that meets its objectives. A confrontation is resolved when there is an agreement, at which point the interaction becomes a "collaboration". Here, the aim of each party is to ensure that it can trust the others to carry out what it values in the agreement.

Table 1 shows what a *Confrontation Manager* screen looks like when displaying a model of an interaction. In this case the view taken is that of the US cabinet. (We are, of course, relying on open sources for information used in building this illustrative example.) The cabinet, led by the President, has outlined a number of missions connected with spreading democracy throughout the world. One, called "World democracy (own level)", is a mission requiring to be implemented by members of the cabinet at their own level—ie, the level of world leaders. One of the interactions belonging to this mission is the political-level interaction between the US and Europe over whether European countries will support the US vision of spreading democracy; we have called this interaction "Get European support".

The US cabinet will, of course, have many missions, domestic and international, besides this particular one, and this particular mission will contain more interactions than this one. Table 1 shows a *Confrontation Manager* screen after just one mission, with one interaction, has been entered into the program.

The model in Table 1 shows this interaction at a particular moment of time using what is called an "options board"—a board setting out the options, positions and intentions of a set of parties. The first column in the board shows the position of the first party—here the US—in terms of the policy options that this party is suggesting it and others should pursue. Filled-in shapes represent adoption of an option, empty shapes represent its rejection, and dashes represent "either/or"—the option may or may not adopted. Here the first column, headed U for US, shows the US taking the position that it should decide unilaterally if necessary (concerning the mission to spread democracy through the world) and others should support it.

Columns following the second column show other parties' positions—each being headed by a short, capitalized version of the party's name. In our model, Britain, 'Old' Europe and New Europe differ in their attitude to the US policy of deciding unilaterally if necessary. Britain and New Europe take no position on this (as indicated by the dash in columns B and N). This means that they would be willing to accept an agreement in which this US policy was adopted, or one in which it was rejected. 'Old' Europe, led by

France and Germany, takes the position that the US should not decide unilaterally. Thus, Britain and New Europe don't disagree with either the US or 'Old' Europe. These two parties, however, disagree with each other.

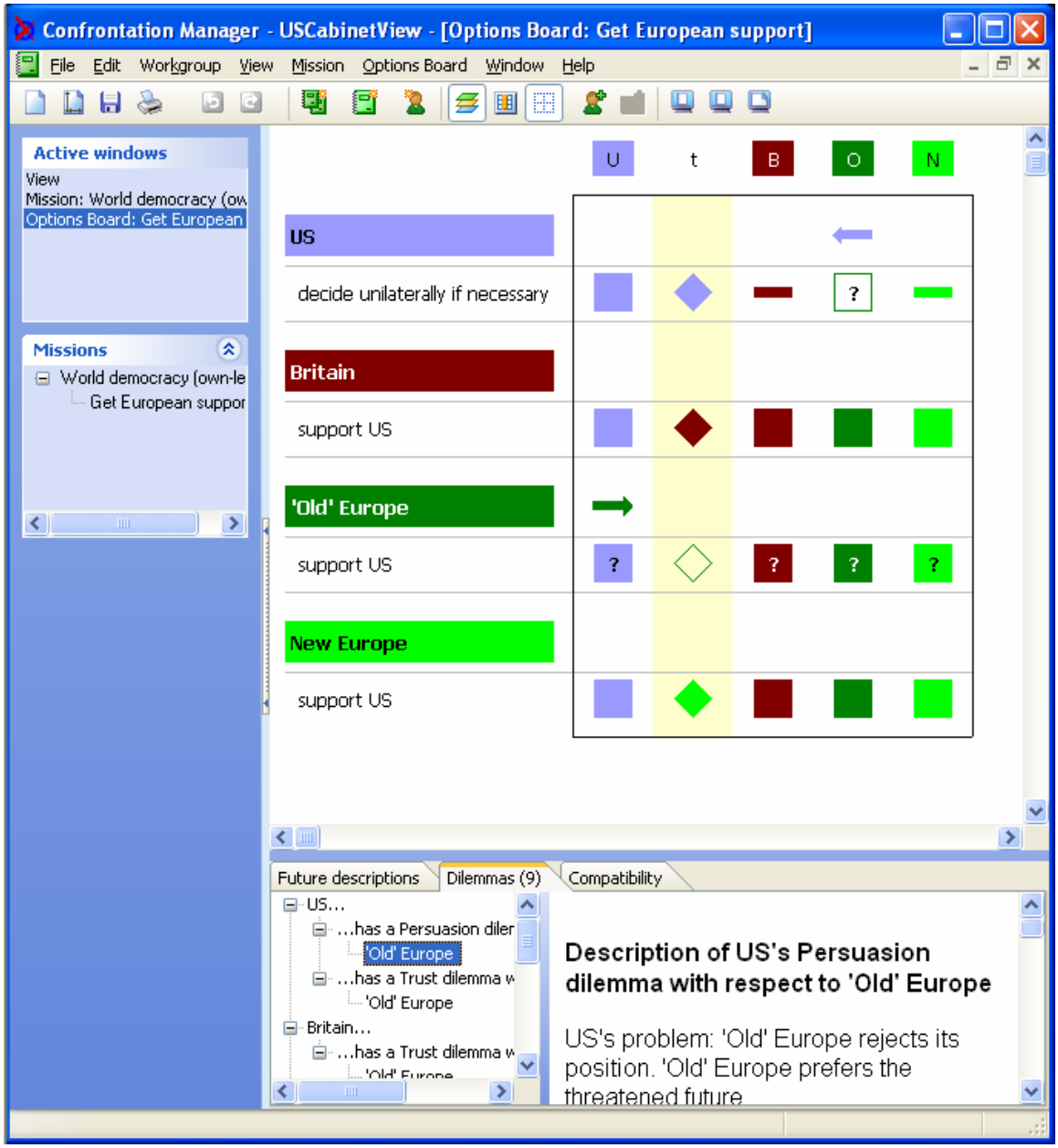

Table 1: Screen showing the political-level interaction *Get European support*

The second column shows parties' stated intentions if agreement is not reached. This column is headed t for "threatened future". Stated intentions are called this when parties disagree, so that the options board represents a confrontation. When all parties agree, so that we have a collaboration, the stated intentions column is called an "agreement", and is headed a.

Under t, the US will decide unilaterally if necessary and will be supported by Britain and New Europe, but not by 'Old' Europe. The threatened future is thus one of continuing disagreement and lack of a coordinated policy.

To complete an options board, the user is asked to make some further assumptions, other than specifying parties, options, positions and stated intentions. Arrows and question-marks show these further assumptions.

An arrow in a row containing a party's name and placed in a position column shows the party's preference between that position and the threatened future. Thus, the US is shown to prefer the threatened future to 'Old' Europe's position; also, 'Old' Europe is shown to prefer the same threatened future to the US position.

A question-mark shows where there is doubt about a party's contingent adoption or rejection of an option. Thus, there is doubt, according to this model, as to whether the US would refrain from unilateral decision-making if (as in column O) it agreed to do so. Doubt is also shown as to whether 'Old' Europe would support the US if (as in all the position columns) it agreed to this.

We have now described the input—the set of assumptions—that the user is asked to put into an options board model. Specifying this input has considerable value in itself, as it requires the user to think through and be conscious of the nature of its interaction with others—what it and they are trying to achieve, and what is likely to happen if they can't agree. Having the interaction set out in a clear form also enables different individuals and different commands to plan and communicate clearly.

In addition to these important benefits, Confrontation Manager analyzes the input and produces some valuable output. What is this output?

Given the user's assumptions, the program computes and generates text advice as to how each party can obtain its objectives. It does so by diagnosing six "dilemmas" that face parties as they try to make their threats and promises credible. From these it generates "projected courses of action" for parties to resolve their dilemmas.

This output of the program appears below the currently-displayed options board, as shown in Table 1. Here we see the beginning of text describing one dilemma – the US persuasion dilemma with respect to 'Old' Europe. Excerpt 1 shows this text in full

Excerpt One

Description of US's Persuasion dilemma with respect to 'Old' Europe

US's problem: 'Old' Europe rejects its position. 'Old' Europe prefers the threatened future.

Projected course of action for US

US has two possible courses of action.

First possible course of action: conciliation or compromise

What concerns 'Old' Europe is that under US's position:

- US would decide unilaterally if necessary.

US looks at what lies behind these concerns. It then sends messages suggesting how to modify both positions to make them compatible.

Projected emotion: positive toward 'Old' Europe.

Second possible course of action: pressure

US sends messages that make 'Old' Europe prefer its position to the threatened future. These messages point out that under the threatened future:

- 'Old' Europe would not support US.

But this is not enough. To change 'Old' Europe's mind, US's messages must do one or both of the following:

1. Show unsuspected, credible benefits for 'Old' Europe in US's position.
   Projected emotion: positive or neutral toward 'Old' Europe.
2. Show unsuspected, credible costs for 'Old' Europe in the threatened future.
   Projected emotion: negative or neutral toward 'Old' Europe.

The tree structure seen in Table 1 to the left of the dilemma descriptions sets out the dilemmas that each party faces with respect to the others. Descriptions are generated by selecting from this tree. Excerpt 2, for example, is the text describing a dilemma in the opposite direction to the above—a dilemma faced by 'Old' Europe with respect to the US.

Excerpt 2: Description of 'Old' Europe's Cooperation dilemma with respect to US

'Old' Europe's problem: US doubts that 'Old' Europe would implement its commitments, if agreed.

'Old' Europe must gain US's trust.

Projected course of action for 'Old' Europe

'Old' Europe analyzes US's assumptions. Why does US believe that, if all parties agreed to 'Old' Europe's position, it:

- might not support US

'Old' Europe sends messages that, by overthrowing these assumptions, do one or more of the following:

1. Show that the costs or difficulties 'Old' Europe would incur in carrying out these commitments are less, or less credible, than US supposes.
2. Show that the advantages it would gain from carrying them out are greater, or more credible, than US supposes.
3. Show that it must inevitably carry them out.

Projected emotion: positive toward US.

The user can make use of this output from the program to decide upon and evaluate the messages it should send. Looking at how it can resolve its own dilemmas and those of its allies helps it to find the messages it must send to reach its own objectives. Looking at how opponents may try to reach their conflicting objectives helps it to find defensive messages needed to prevent their messages being effective.

Note that the program does not dictate the messages the user should send. Instead, it gives the purposes that the messages need to serve. How these purposes can be served is left for the user to decide by consulting the reality being modeled.

Thus, the projected courses of action are in the form of guidelines requiring the user to look outside the model at the environment, in order to send messages not present in the model. Dilemma analysis always encourages "thinking outside the box", whether the thinking is done on the user's own behalf or in order to see into the minds of other parties. It does not try to 'solve' the given model. Instead, it advises the user to look outside the model for new factors it needs to bring in, and gives warning as to how other parties may be doing the same.

Interactions and missions

We have seen how dilemma analysis of an options board shows the user how each party can try to reach its objectives, given the present state of an interaction. Thus, it gives guidance in creating the kind of message that will change the objectives and attitudes of opposing forces and bring them over to our side.

But how do we create a command and control system to coordinate the sending of messages at all levels of command? This is needed to ensure that messages sent by one command support and are supported by messages sent by other commands, related to it both vertically and horizontally. For example, it is necessary that tactical-level messages—such as those should support the operational commander's strategy. In turn, the operational commander's strategy in confronting parties at his level should support his commanders at tactical level. Horizontally, messages sent by the command responsible for one tactical area should support messages sent by commands in other areas.

A C2CC system (for command and control of message-sending) is constructed as follows.

We've said that a *Confrontation Manager* file contains a set of interactions, modeled by options boards like that in Table 1, that represent the view of a particular organization or

group of parties. This organization or group is generally called the "user group." Normally, access to a file held and maintained by a user group will be limited to members of the group.

For example, in the case of Table 1—if we imagine *Confrontation Manager* being used for this interaction—the user group would be the US cabinet. The file containing this interaction would therefore be accessed only by members of the cabinet and those working with them. Other user groups, further down the chain of command, would be HQ commanders and their staff. These user groups would have their own, separate *Confrontation Manager* files, containing their own interactions.

Within a *Confrontation Manager* file, the interactions are grouped together into "missions"—meaning sets of linked interactions undertaken to resolve particular issues or sets of issues. For example, the interaction in Table 1 might belong to a mission of the US cabinet called "Spread democracy through diplomacy". Examples of other interactions belonging to this mission would be US-Russian and US-Chinese relations, Israeli-Palestinian negotiations, the post-conflict campaign in Iraq, relations with Syria, and confrontations with Egypt and Saudi Arabia over progress toward democracy.

Each mission in a *Confrontation Manager* file consists of a set of options boards. It contains different options boards to represent the current state of each interaction that is currently taking place.

Other options boards belonging to the mission may represent past states of interactions or projected future states used for planning. But each current options board would represent the current state of a particular interaction, like that in Table 1.

Because a party's internal view of its relations with others is necessarily confidential, a system composed of views held by different user groups has to keep to certain rules governing access to views. These are: access to a view is limited to members of the user group—the group that takes, maintains, implements and updates the view. And different members of the user group must never appear as separate parties in any options board. Otherwise, members of the group would be planning how to confront each other—something they cannot do effectively.

The interactions belonging to a mission are, of course, linked. A particular kind of linkage consists in the fact that different interactions may share the same parties or options. This is allowed for in *Confrontation Manager*. Other kinds of linkage—and links between missions—are not at present allowed for in *Confrontation Manager*, but are easily implemented using complementary software. *Confrontation Manager* performs the invaluable service of clearly specifying the various interactions and the missions they belong to.

Confrontation Manager also has workgroup facilities enabling different units or individuals in the user group to work together on their shared view.

Thus, *Confrontation Manager* supports a system in which a number of linked missions, and the interactions belonging to them, are handled and coordinated.

As we discuss next, it also supports delegation of missions to lower levels of command.

Delegation of missions

A C2CC system for the military would consist of a number of views contained in *Confrontation Manager* files held by different commands. Within each view, there would be three types of mission: "higher-level" missions (including the user group's "central" mission), own-level missions and delegated missions.

Consider first the group's central mission. This is a set of linked interactions delegated to the user group by its superior. It is initially constructed by the staff of the superior in light of the superior's view as to how the subordinate (the user group) can help it achieve its objectives. Thus, in its initial version it is authoritative as to the objectives it lays down for the subordinate (provided they are achievable) and the resources it makes available (provided they are sufficient), but not as to the way of achieving them. This is because *how* the objectives can be achieved is generally better-known to the subordinate than the superior. There is therefore a need for a to-and-fro process between the user group and its superior to adjust the group's central mission to ensure that it is both achievable by the group and in line with the superior's objectives.

This to-and-fro process of adjustment would be done, using *Confrontation Manager*, by swapping missions. Having received its central mission, the user group would analyze it and send it back up with suggested changes. These would be accepted or rejected, further changes would be suggested and sent back down; and so on. The process would end with a mission that would be identical in the user group's view (where it is the central mission) and in the superior's view (where it is one of the superior's delegated missions).

As the user group proceeds to implement its central mission, and progress is made or unexpected problems arise, the central mission may require updating or further amendment. This is done in the same manner.

In addition to the user group's central mission, it may keep a copy of the central mission of its superior, to improve its understanding of its own central mission. Going further, it may keep the central mission of its superior's superior, and so on right to the top. In this way, a C2CC system would enable a "strategic corporal" to be aware, in his interactions, of the intent of his superiors right up to political level.

Note that this is perfectly feasible, in terms of information load. It is impossible, due to proliferating variety, to look far down into an organization; a commander cannot understand the detailed concerns of all his subordinates. Looking upward is, however, quite feasible, as there is only one chain of missions leading to the top.

If, however, we go to the very top of the organization—in our case to the president—we can no longer describe the user's central mission as having been passed down by a superior. There is no organizational superior. The president is, in fact, an example of an "autonomous" user group—defined as one that designs its own central mission.

Autonomous groups exist at all levels of society. Autonomy is not a question of social status, but of rank within an organizational hierarchy. Our C2CC system would necessarily be built for a hierarchy in which each user group would maintain a view (contained in a *Confrontation Manager* file), the central mission of which would be delegated to it by its superior.

Having received and confirmed its central mission, how would the user group implement it? It would begin by analyzing it and designing two other types of mission—own-level and delegated.

Own-level missions are those the user would carry out itself, by interacting with parties at its own level. Delegated missions are those it would pass down to become the central missions of its subordinates.

If we consider the mission "Spread democracy through diplomacy" that contains, amongst others, the interaction in Table 1, this would be an example of an own-level mission within the view of the US cabinet. In Table 1, members of the cabinet are interacting directly with representatives of European states, trying to persuade them to support the US vision of spreading democracy.

For an example of a delegated mission, consider another mission "Use military means to spread democracy" that might be formed within the view of the US cabinet. This mission would then be delegated by the cabinet to the US defense department. It would contain a set of interactions involving the military in Iraq, Afghanistan, Bosnia, and so on.

What would happen next? Following the usual process of strategic planning—assigning forces to carry out missions—this mission would result in a mission being delegated to the US commander in Iraq that might be called "Help Iraqis establish a secure democracy". This would then become that operational commander's central mission.

The view of the operational commander

The operational commander and his staff would analyze the mission received from strategic level, confirm it with his superior, and design own-level missions and delegated missions at operational level.

Own-level missions at this level would contain the commander's personal (or immediately delegated) interactions with national religious, political and ethnic leaders in Iraq, with the leaders of NGOs and international agencies, and so on. He would, of course, be acting in coordination with military coalition partners and non-military parties such as the Coalition Provisional Authority, but would have his own view of his mission, based on his central mission delegated to him through the US chain of command. Within this view, military and non-military coalition partners could appear as separate parties.

Note that however much he acts in coalition with other parties, the military commander is necessarily an important part of political interactions within the theater. As long as there is a need for a military presence, the party responsible for deciding on the use of force must be an important player. A responsible commander realizes this and is fully engaged with the political process—even when his participation is limited to signaling that initiatives take by others have or have not his full support.

As well as his own internal planning, the commander would be able to use the C2CC system we are proposing for joint interaction planning with other parties. For this, he would form a separate view, held in a separate *Confrontation Manager* file. The user group for this shared view would include the specific other parties with whom joint planning of interactions is needed. It would be a *Confrontation Manager* file shared

between the commander and these other parties, with all information and judgments in it made accessible to them and made jointly with them.

Information from the commander's militarily secure view would be screened for confidentiality before being transferred from his own view to this shared view. The rule that separate members of the user group cannot be separate parties in any interaction would be enforced by ensuring that all parties within the user group of the shared view take identical positions and have identical preferences and doubts—arrived at, of course, through a process of joint planning.

Finally, the commander and his staff would delegate missions to his tactical commanders, as well as to functional commands important for message-sending, such as PI, PSYOPS, IO and CIMIC.

The process of tactical delegation would obviously go through various command levels. Simplifying this process, we will suppose that a mission called "Security and participation" is finally passed down to the battalion commander quoted at the beginning of this paper. This mission, we suppose, contains, amongst others, the two interactions in Tables 2 and 3.

Table 2 models a typical interaction between a tactical commander—such as a captain reporting to the battalion commander—and a local leader such as a village sheik. It models a typical interaction, rather than a specific one, because it is intended to tell the tactical commander how he should tackle a general issue. Here the issue is whether a local leader will give intelligence to a tactical commander. The idea is that the tactical commander should use the carrots of reconstruction aid and respect for local feelings to induce intelligence cooperation. His position: I should give aid and respect, you should give intelligence. The sheik's position: I want aid and respect, but daren't give intelligence. The threatened future: no aid, no commitment to give respect; no intelligence.

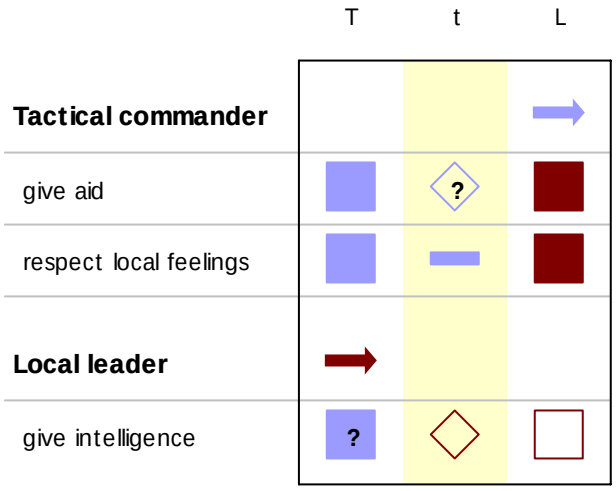

Table 2: The interaction *Get local intelligence* delegated to the tactical commander

The arrows and question-marks in this options board come, we will suppose, from the battalion commander making suggestions to his superior. He suggests that, in general, a local leader will prefer the threatened future to the tactical commander's position (because he fears reprisals) and will suspect that the tactical commander prefers his (the local leader's) position to the threatened future (suspecting that the tactical commander wants to give aid if he can, and wants to assure respectful treatment). These suggestions lead to the two arrows, both of which constitute dilemmas for the tactical commander.

Furthermore, the battalion commander suggests, the local leader may not believe the commander's threat to withhold aid, while the commander wouldn't be able to trust the local leader if he undertook to give intelligence. These suggestions lead to the two question-marks, which also constitute dilemmas for the tactical commander.

These dilemmas are spelt out by *Confrontation Manager* with the output shown in Excerpts 3, 4, 5 and 6.

Excerpt 3: Tactical commander's threat dilemma

Description of Tactical commander's Threat dilemma with respect to Local leader

Tactical commander's problem: Local leader doubts Tactical commander's resolve in the event that the present impasse continues.

Tactical commander must make his threat credible.

Projected course of action for Tactical commander

Tactical commander analyzes Local leader's assumptions. Why does Local leader believe that, if the present impasse continues:

- Tactical commander might give aid?

Tactical commander sends messages that, by overthrowing these assumptions, do one or more of the following:

1. Show that the costs or difficulties Tactical commander would incur in carrying out his threat are less, or less credible, than Local leader supposes.
2. Show that the advantages he would gain from carrying it out are greater, or more credible, than Local leader supposes.
3. Show that he must inevitably carry them out.

Projected emotion: negative (eg, anger) or neutral toward Local leader.

This text gives advice as to how to overcome a lack of credibility in the tactical commander's threat to withhold aid. The text that follows gives advice on how to deal with the fact that his rejection of the local leader's position lacks credibility

Excerpt 4: Tactical commander's rejection dilemma

Description of Tactical commander's Rejection dilemma with respect to Local leader

Tactical commander's problem: his rejection of Local leader's position is not credible. Local leader believes that Tactical commander may prefer his (Local leader's) position to the threatened future. Under the threatened future:

- Tactical commander would not give aid; may or may not respect local feelings.

Projected course of action for Tactical commander

Tactical commander has two possible courses of action.

First possible course of action: conciliation or compromise

There is common ground between Tactical commander and Local leader. For both, Local leader's position is potentially better than the threatened future.

Tactical commander's problem is Local leader's insistence that:

- Local leader should not give intelligence.

Why does Local leader take this position? Tactical commander analyzes Local leader's underlying concerns. He then sends messages suggesting how to modify both positions to make them compatible.

Projected emotion: positive toward Local leader.

Second possible course of action: rejection

Tactical commander sends messages to convince Local leader he (Tactical commander) does prefer the threatened future to Local leader's position.

Tactical commander's messages must, by adding to or changing the set of available options, do one or both of the following:

1. Show that the costs to Tactical commander of Local leader's position are greater, or more credible, than Local leader supposes.
   Projected emotion: Negative or neutral toward Local leader.
2. Show that the advantages to Tactical commander of the threatened future are greater, or more credible, than Local leader supposes.

   Projected emotion: Negative or neutral toward Local leader.

The tactical commander has the opposite problem regarding the local leader's attitude to his (the commander's) position. The local leader, fearing reprisals, prefers the threatened future. The following text advises the commander how to deal with this problem.

Excerpt 5: Tactical commander's persuasion dilemma

Description of Tactical commander's Persuasion dilemma with respect to Local leader

Tactical commander's problem: Local leader rejects his position. Local leader prefers the threatened future, under which:

- Local leader would not give intelligence.

Projected course of action for Tactical commander

Tactical commander has two possible courses of action.

First possible course of action: conciliation or compromise

What concerns Local leader is that under Tactical commander's position:

- Local leader would give intelligence.

Tactical commander looks at what lies behind these concerns. He then sends messages suggesting how to modify both positions to make them compatible.

Projected emotion: positive toward Local leader.

Second possible course of action: pressure

Tactical commander sends messages that make Local leader prefer his position to the threatened future. These messages point out that under the threatened future:

- Tactical commander would not give aid; may or may not respect local feelings.

- although Local leader believes that if the time came to implement the threatened future:
-
- Tactical commander actually might give aid.

But this is not enough. To change Local leader's mind, Tactical commander's messages must do one or both of the following:

1. Show unsuspected, credible benefits for Local leader in Tactical commander's position.
   Projected emotion: positive or neutral toward Local leader.
2. Show unsuspected, credible costs for Local leader in the threatened future.
   Projected emotion: negative or neutral toward Local leader.

Finally, the tactical commander has a problem in that even if the local leader accepted his position, he wouldn't be able to trust him to carry it out. The following text gives advice concerning this problem.

Excerpt 6: Tactical commander's trust dilemma

Description of Tactical commander's Trust dilemma with respect to Local leader

Tactical commander's problem: he doubts that Local leader would actually implement his proposals.

Tactical commander must make Local leader trustworthy.

Projected course of action for Tactical commander

Tactical commander analyzes Local leader's concerns to see why, after agreeing to Tactical commander's position, he (Local leader):

- might not give intelligence.

He then sends messages to do one or both of the following:

1. Show that the costs or difficulties to Local leader of these defections from Tactical commander's position are greater, or more credible, than Local leader supposes.
2. Show that the advantages to Local leader of sticking to Tactical commander's position are greater, or more credible, than Local leader supposes.

Projected emotion: mistrustful or neutral toward Local leader.

Note that as in Table 1, which modeled a high-level political interaction, the program's output gives advice as to the kind of changes that the commander's messages need to bring about. It does not dictate the messages. The commander must decide, in the light of circumstances, exactly which messages to send and how.

Table 3 models another typical problem for a tactical commander—getting cooperation from the local Iraqi police, who also fear reprisals if they patrol with US forces or call them in to help tackle insurgents. Again, the tactical commanders face dilemmas.

Immediate mission for a company commander

If the battalion commander were operating a C2CC system he would brief his company commanders on the interactions belonging to his central mission and discuss with them how to solve dilemmas in them. He would then work with them to define the missions he delegates to them. His own-level missions would consist of maintaining relations with local leaders, agreeing general policies with them and moving in to support his company commanders when necessary.

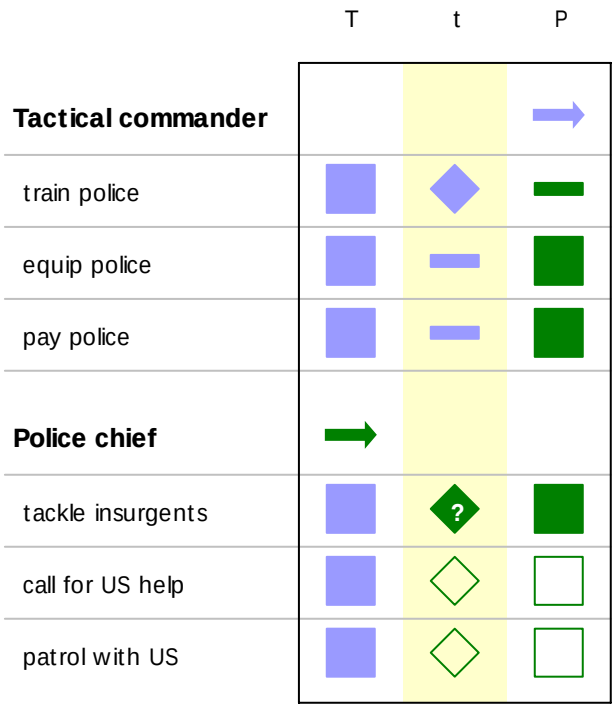

Table 3: The interaction *Build up police force* delegated to tactical commander

The company commander would thus be given a central mission by his superior, and would be striving to achieve objectives specified in it. In doing so, he would often find himself involved in own-level missions that arise quickly, requiring immediate action and leaving little time for planning. An example is the problem we discussed at the beginning of this paper. A US captain commanding a company under the battalion commander has told the local sheik to make sure that lost equipment is returned quickly, or his village will be searched rather roughly.

The confrontation between the US captain and the sheik is modeled in Table 4.

The captain's position (column U) is: we don't search village roughly; you arrange return of equipment. The sheik, fearing reprisals, takes the position in column S: don't search village roughly; I don't arrange return of equipment. The threatened future: the captain will search the village roughly; the sheik won't arrange return of equipment.

Now if we compare Table 4 with the generic confrontation in Table 2 we find that it is a special case of the latter—with some significant differences. "Arranging return of equipment" is a special case of giving intelligence—except that results from intelligence are demanded, rather than incrimination of individuals. "Searching village roughly" is a case of not respecting local feelings. The threat to discontinue aid has been dropped.

What's interesting is that each of the differences between the models was created on the spur of the moment by the captain, and each one makes his position significantly stronger by reducing or eliminating one of his dilemmas.

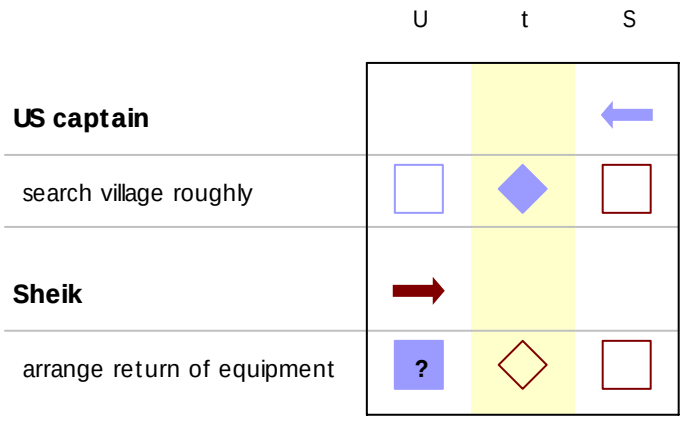

Table 4: Company commander's confrontation over return of equipment

First difference: The threat to discontinue aid was incredible, giving the captain a threat dilemma. Having given up the threat, he no longer has the dilemma

Second difference: In Table 2, the threat to disrespect local feelings was ambiguous. Now the captain makes the threat of rough searching very clear, and his anger shows that he means it. His anger is made credible by the fact that his men have just been injured—and it carries the implication that the search may be very rough. Moreover, reasons are available to support this display of appropriate emotion. If the equipment is not returned, he will be bound to make a thorough search. Loss of equipment is a serious matter.

Third difference: By not demanding intelligence that will incriminate individuals, the captain makes his position much more acceptable to the sheik—hence increases pressure on the sheik to agree.

Despite these improvements, the captain still has not got his way. The arrows in Table 4 show that both parties now prefer the threatened future to the other's position. The big difference is that the sheik now faces a dilemma, as well as the captain. To escape it, the sheik proposes a position they can both agree to. If the captain will reduce his patrols, the sheik will make sure the equipment is returned. In this way the sheik no doubt hopes to avoid reprisals.

By introducing this new option, the sheik creates the options board in Table 5. The two positions are now compatible (recall that a dash in a party's position indicates willingness to accept either adoption or rejection of an option). This options board shows a collaboration, with stated intentions now representing an agreement. Only the captain's trust dilemma still stands in the way. Can he trust the sheik's promise to return the equipment?

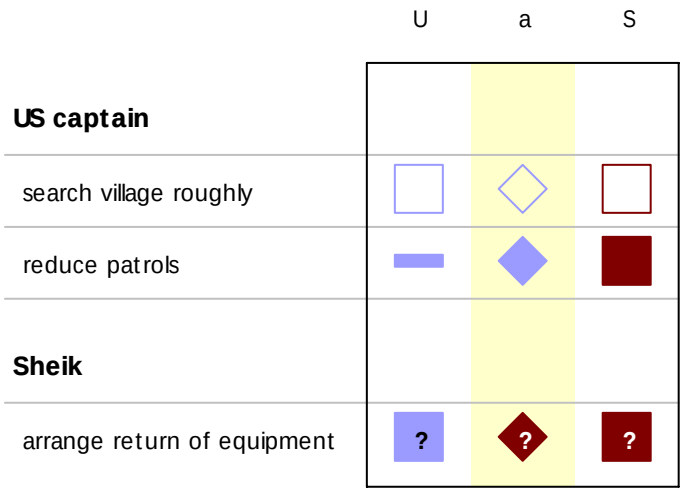

Table 5: Company commander's revised options board

The captain eliminates this last dilemma by making it clear that, if the equipment is not returned in 48 hours, a rough search will take place. Though he still cannot be sure of the equipment's return, he is now pretty sure that the sheik will do his best. The final options board is therefore that in Table 6, which shows an agreement that suffers from no dilemmas.

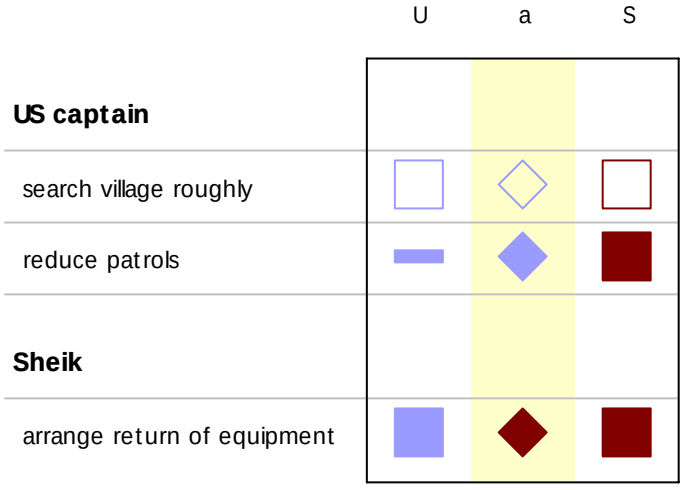

Table 6: Final options board showing agreement between captain and sheik

Benefits and prospects of a C2CC system

The captain in our example could easily have been equipped with a hand-held computer containing his view of his missions. It would have taken only a few minutes to enter into this view the specific confrontation he was in, and receive advice as to how to handle it.

Actually, the captain, acting on the spur of the moment and driven by emotions appropriate to his situation, handled the confrontation well. Whether use of a C2CC system might have enabled him to handle it better—perhaps avoiding the sad sequel of reprisals against the sheik—we cannot say.

In general, we must judge that understanding what messages need to be sent, and why and how they should be sent, will improve message-sending. Sending these messages within a command and control system that supports them will add another dimension of improvement by improving coordination—something that is at least as important for message-sending as it is for physical targeting.

Further development of *Confrontation Manager*, following discussions with military users, will enable such improvements to be measured. One suggestion is to incorporate Measures of Merit for messages, based on the five factors that contribute to message effectiveness. These are: Reasons given for the desired change in preferences or beliefs; Evidence given to support those reasons; Comprehensibility of the message to the recipient, given differences of language and culture; Emotional tone appropriate to the kind of message being sent; and Coordination between all units on our side that the recipient would expect to be sending and supporting the message.

The advice given by *Confrontation Manager* helps with the factors of Reason, Evidence and Emotional tone. Integrating message-sending through a C2 system will help with the Coordination factor. As for the factor cultural factor of Comprehensibility, it is suggested that this can be helped by incorporating into *Confrontation Manager* a cultural assistance facility customized for each particular theater—eg, one for Iraq, one for Afghanistan, and so on.

While the improvements to be obtained at tactical level are clear, even greater improvements may be expected at operational and strategic levels. At tactical level, the need for improvement is concrete and obvious. Like the captain in our example, company commanders are often the first to see what changes of approach are needed because at their level the need for them is apparent. But the need for an operational commander (for example) to support his tactical commanders by putting appropriate emotional and rational pressure on national ethnic and political leaders is often greater, but less obvious. Equally, the operational commander needs to support and be supported by the strategic and political levels.

As we have seen, the C2CC system we have outlined is useful at all command levels, from the platoon commander or private soldier to the president, and can form an integrated system throughout the whole command hierarchy.

A C2CC system would perform further valuable services. It could be used for lessons learned, making available for analysis and experimentation an audit of all the interactions that have taken place in a campaign. The same database of interactions would provide material for training. Trainees would be able to re-run and try out different tactics using the interactions that actually occurred. Finally, entering into the system anticipated interactions would enable them to be rehearsed beforehand.

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